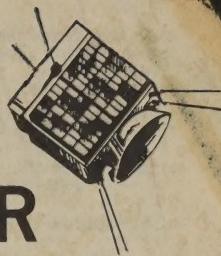




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1977, 1978

NEWSLETTER

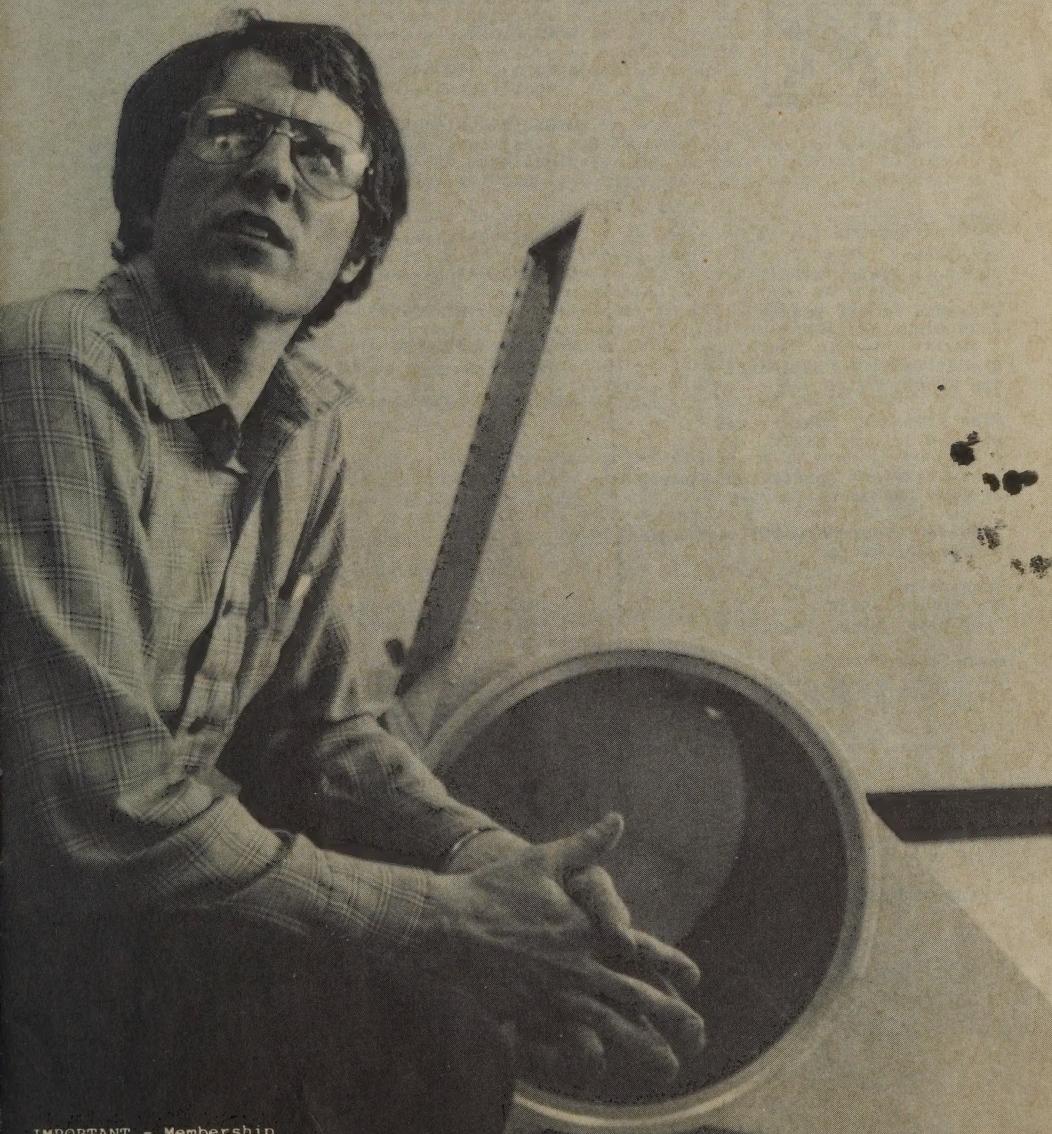
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IMPORTANT - Membership
Renewal Form enclosed on pg. 15

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COVER PICTURE

Jan King W3GEY, Project Manager for the AMSAT Phase III spacecraft gazing into the future.

CONTENTS

Editorial.....	3
A Note on ICOM'S IC202 LSB Modification.....	3
OSCAR Takes Another Vacation.....	4
Highlights of AMSAT Annual Meeting 6 October 1979.....	5
Minutes of the AMSAT Board of Directors Meeting.....	6
Orbital Data.....	8
Letters and Comments.....	10
The AMSAT 80 Computer Project Update.....	14
MEMBERSHIP RENEWAL.....	15

BACK ISSUES AVAILABLE

Back issues of the Newsletter are available upon request in return for a donation to AMSAT.

If you specify what year you first joined AMSAT, we'll send you an assortment of ten earlier issues for \$10.00, or fifteen issues for \$15.00.

Certain pre-1974 and the September 1975 issues are not available.

Note that due to the time and effort involved in servicing back issue requests, the minimum donation should be \$10.00.

Write to Back Issues, AMSAT, P.O. Box 27, Washington, D.C., 20044.

EDITORIAL

By Joe Kasser, G3ZCZ

With this, the December issue, the AMSAT Newsletter ceases publication. Five years ago, I took on a temporary position as editor of the AMSAT Newsletter and put out my first issue in December 1974. In those five years, the Amateur-satellite Service expanded, several spacecraft were launched and our organization has grown by leaps and bounds, so that a small local group in Washington, D.C. with a few members outside that area, founded in 1969, has suddenly reached the position of being an international organization with members in some 90 countries. Along the way we collected affiliate organizations, and local groups. It is obvious to anybody who has read the last few issues of the Newsletter, that the changes to the organization, forced on it by its evolution are slowly (and painfully) being implemented. One of these changes affects the publications policy, and as such this journal ceases publication forthwith. It is to be replaced by ORBIT magazine.

The function of ORBIT magazine, as I see it, is to provide expanded services to the satellite user community and to anybody interested in the hobby-related aspects of outer space. This includes the OSCAR series spacecraft (including the R-S series), weather satellites, propagation equipment such as receivers, transmitters and computers. Thus, ORBIT magazine is not a replacement for all local or national AMSAT publications, especially in a non-English speaking country. It could, however, be a replacement for the technical contents of the local or national publication.

ORBIT will thus carry technical articles in more than one language. It will carry user activity information describing and documenting "Who is doing what where and how..." Conditions in other countries may be very different to conditions in your country. ORBIT will help you find out and possibly understand them.

I am going to try for six issues in 1980. In order to do so, you the readers will have to do your part. If you know of anything interesting that has or is about to happen, write it down and send it in to the editorial address or to one of the features editors. We are looking for scientific articles on telemetry signals or propagation. ORBIT will carry articles on eme, weather satellites, propagation, the use of computers in the Amateur-satellite Service, (in space or earth stations), telemetry tracking and command (TT&C) equipment, communications equipment, etc. Articles will also be published in Spanish, French and German. If you submit an article in one of these languages, please submit an English abstract or translation. Don't worry about the quality of the English abstract translation - we shall take care of it.

It is with your help that the AMSAT Newsletter slowly, with each issue published, improved in quality until it reached its present position. It won the Amateur Radio News Service publication award in its class for two consecutive years (1977 and 1978) and is entered in the 1979 competition. Your continuing help will take our publication out of the newsletter class and put it into ORBIT.

Joe

A NOTE ON ICOM'S IC202 LSB MODIFICATION

By John Pronko, W6XN

A number of hams on the U.S. West Coast have attempted to make lower-sideband modifications to the ICOM IC202 using the LSB crystal and set of instructions provided by ICOM West. Once the modification was completed, it was found that it was not possible to have both crystals on their respective frequencies simultaneously. When C61 was adjusted to put one of the crystals on frequency, the alternate would be off by as much as 1.5 kHz. Adding the padding capacitor across the LSB crystal in their step 33 only compounds the problem. Apparently, the batch of LSB crystals being supplied were cut too low in frequency by a few kHz. If, in your attempt at implementing this modification, you experience the same difficulty, I suggest you follow the additional steps presented below.

- 1) When you have reached step 13 in their instructions, remove C63 from the circuit.
- 2) At step 25, where the crystals are installed, place a miniature 5-25 pf variable capacitor across the leads of the 10.6985 MHz upper-sideband crystal.
- 3) Follow ICOM's tune-up procedure at step 30, with the exception that now you adjust C61 and the miniature capacitor installed above to put both crystals on frequency.

OSCAR TAKES ANOTHER VACATION

John Pronko, W6XN

Our vacation plans for the summer of 1978 were finally settled in favour of a two week tour of Vancouver Island, British Columbia, Canada. This was a relatively easy decision to make since my wife's parents reside in Victoria and it was time to pay them a visit. However, I realized immediately that this was going to present a difficulty; I would not be able to have my usual fix of OSCAR communications. Extraordinary measures were in order! Why not take OSCAR with me? Hadn't VE7VL already assured me, via our ragchews on AMSAT-OSCAR 7 Mode B that I would have a different dose of DX than that to which I was accustomed. So to the obvious disappointment of my family I began to assemble a portable station.

In order to conserve on traveling weight and space, I decided to use my father-in-law's (VE7DGH) FT101E as the base receiver for the OSCAR station. This transceiver was located in his camper van and, when coupled to his Hustler mobile antennas, provided him with 5 band communications. The remainder of the station consisted of 2M to 10M receive converters (a homebrew and a Microwave Modules), an IC202, a Microwave Modules transverter (2M IF) for 432 MHz and 50 watt Klitzing amplifiers on 2M and 70 cm. Configured properly, this assemblage provided Mode A, B and J capabilities.

Power for the receive portion of the station was derived from the van's 12 volt battery, while my automobile battery was usually used for the transmit portion of the station. When the vehicles were not in motion, the batteries were charged with a 1.5 ampere solar cell panel or an ordinary (Sears 110 volt AC) car battery charging converter.

The 10M downlink antenna consisted of the Hustler mobile whip attached to the van, or an existing set of phased crossed wire dipoles strung between trees or other convenient structures. All that remained to be assembled were the VHF/UHF antennas. Since I planned to do a lot of terrestrial communications, I wanted the 2M and 70 cm antennas to be high-gain directive, and horizontally polarized. A further desired feature was that of convenient stowage at travel time.

The antenna mast consisted of two 2.44 M long telescoping pipes (picked up at the local scrap yard) attached to the front of our 4 M long travel trailer. On this was mounted an 8 element 70 cm quagi and 6 element 2M quagi. The latter antenna was the standard version, with the first two elements and extra boom removed. Although this version no doubt had less gain than the original design, it still proved to be very directive (the actual gain was not measured). When the mast was nested, the front half of the 2M antenna lay on the trailer roof, and when the mast was in the extended position, the antennas were approximately 4.3M off the ground. Azimuth and elevation controls were strictly manual, the former being accomplished via a rope tied to the front and back of the 2M antenna.

During the drive from Los Altos, Ca. (the home QTH) to Victoria, B.C., a few chats on 2M FM and an occasional attempt at terrestrial VHF/UHF contacts were made. Once in Victoria, I was able to participate in the August ARRL UHF contest and worked about eight stations on 70 cm. At this point in the trip, the OSCAR station was assembled and satellite operations commenced.

The remainder of the trip included stops at five different campsite locations on the island. A total of 97 contacts were logged in 10 days of operating. A number of these were repeat QSOs with the many good friends established via OSCAR communications. Among the DX stations logged were OY5NS and JA8WEU.

During our travels on the island, I had an opportunity to visit Val (VE7VL) and Corr (VE7BBG), both of whom are OSCAR enthusiasts. The three of us had established evening schedules on 432.1 MHz and conducted propagation tests between their homes and my various island campsite locations. Corr has an excellent EME station consisting of a kilowatt and 6.1 M parabolic dish for 70 cm. With such a station at his disposal, he suggested we try bouncing signals around the island (from his QTH in Duncan to mine in Tofino) using the Washington State Olympic mountains as a passive reflector. Unfortunately, that attempt was not successful.

Between OSCAR passes and a bit of rain, we did some hiking, fishing, swimming, canoeing, and plain old relaxing. Consequently, despite the presence of OSCAR, the family found the trip to be fun and full of excitement. Those readers who may have made contact with me while on this trip and who would like a QSL card, please use the AMSAT QSL Bureau or my Callbook address.

HIGHLIGHTS OF AMSAT ANNUAL MEETING 6 OCTOBER 1979

W9MXC (Mode J Newsletter)

Distinguished Visitors Present:

Art Gee, G2UK Chairman AMSAT-UK
Pat Gowen, G3IOR President AMSAT-UK
Martin Sweeting, G3YJO A08 Command Station and Project Manager "UOSAT"

Board of Directors "AMSAT" (Election results):

Jan King, W3GEY
Perry Klein, W3PK
Will Webster, WB2TNC/3
John Browning, W6SP
Pat Gowen, G3IOR
Rich Zwirko, K1HTV
Tom Clark, W3IWI

Alternates:

John Henry, VE2VQ
Jim McKim, V0CY

"AMSAT" Officers:

1. Chairman of Board: John Browning, W6SP (New office)
2. President: Perry Klein, W3PK
3. Executive Vice President: Tom Clark, W3IWI
4. Corporate Secretary and Office Manager: Martha Saragovitz
5. Liaison for Foreign Societies: Pat Gowen, G3IOR (New office)
6. Office of Information and Publication: AMSAT-UK
7. Secretary to the Board: Joe Kasser, G3ZCZ

New Dues Structure:

Effective: 1 January 81 - Regular Membership Domestic - \$16.00 per year
Foreign - \$20.00 per year

*Effective: 1 July 81 - Life Membership \$200.00

*Note: You can still receive Life Membership at the present rate until June 1980. This may be paid in one lump sum or 4 equal payments of \$25 each or other arrangements may be negotiated with AMSAT-HQ.

Newsletter:

- a. The last AMSAT Newsletter will be published with the December 1979 issue.
- b. Replacement for AMSAT Newsletter as most of you know is the New "Orbit" Magazine. First issue to be January 1980. First it will be still a quarterly issue, with Hi Hopes (if it catches on and advertisers pick-up) to be a monthly issue.

It is reported that (1) of the SSC channels on #3A will be set aside for AMSAT calling/liaison frequency.

The #3A Band Plan was generally accepted by AMSAT, with minor exceptions. More on this later.

The main outcome of the forum at the Annual Meeting was the existance of a communications problem, both coming out of AMSAT HQ and also input to AMSAT from the users. Fellows, the task is shared by all of us - let's get the input into AMSAT HQ and likewise AMSAT can better their communication with the users.

As legend has it, it's bad luck to name a satellite before a successful launch. So, superstitious as we are, #3A will not be officially named until it's in orbit. At that time, it will be known as (just plain) AMSAT-OSCAR 9 (AMSAT 9 for short).

The new ARRL movie "The World of Amateur Radio" made its E. Coast premiere showing at the AMSAT Annual Meeting and was reported as being a smashing success. Such notables as Barry Goldwater, Stew Gilliam, King Hussein, Art Godfrey and Dick Van Dyke were major stars.

ARRL asks that you don't make requests for the movie until it is announced in "QST" as being available. League indicates it most likely will be available only through your Division Director. So, watch for the announcement!

"UOSAT" launch is scheduled for late 1981. Altitude should be around 500 Km. It is scheduled to pass overhead at 3 AM and 3 PM. This should work out great for school classroom participation.

(Continued on Page 14)

MINUTES OF THE AMSAT BOARD OF DIRECTORS MEETING

October 7th and 8th, 1979

A meeting of the AMSAT Board of Directors was held during the day and evening of Oct. 7th and the morning of Oct. 8th, 1979. It was held in the Conference Room of Building #2 of NASA Goddard Space Flight Center, Greenbelt, MD. The following people were in attendance (for part or all of the time):

*John Browning, W6SP
*Tom Clark, W3IWI
*Pat Gowen, G3IOR
*Jan King, W3GEY
*Perry Klein, W3PK
*Will Webster, WB2TNC
*Rich Zwirko, K1HTV
Martin Davidoff, K2UBC
Andy Deskur, WA2HGS
John DuBois, WLHDX
Bill Dunkerley, WA2INB
Arthur Gee, G2UK

Bernie Glassmeyer, W9KDR
John Henry, VE2VQ
Joe Kasser, G3ZCZ
K.O. Learner, K9PVW
John Pronko, W6XN
Vern Riportella, WA2LQQ
Roy Rosner, K4YV
Martha Saragovitz
Ray Soifer, W2RS
Ben Stevenson, W2BXA
Martin Sweeting, G3YJO

*Board members

Items discussed and actions taken were as follows:

1) Finances (1980 budget, changes in investment policy, dues increase, cash flow projection)

Ray Soifer discussed the report of the Investment Committee which recommended that half the Life Membership reserves be invested in high-quality, high dividend common stock of public utility companies as a hedge against inflation. The stock proposed was AT&T. A motion to accept the recommendation of the Investment Committee was proposed and passed.

The Board then authorized the spending of up to \$3,000 for an audit of the books, to be conducted before the next Annual Meeting. Tom Clark proposed that AMSAT engage an accountant who would be required to address the issue of changing our accounting from a cash to an accrual basis. This motion was passed.

The 1980 budget was presented and discussed by Perry Klein. It was agreed that Perry would spend an average of 50% of his time on the Phase III project. Will Webster moved that the 1980 budget be accepted. The vote was 5 in favor and Tom and Jan abstaining.

The question of a dues increase was discussed. Pat Gowen moved that U.S. dues be increased to \$16 per year and overseas members would be \$20. Foreign members would again receive their Newsletters via airmail. John Browning added an amendment stating that members can renew at the old rate until the new rate goes into effect. There were 5 votes for, with Jan opposed and Rich abstaining. The Board, with the exception of Jan King, also agreed to raise the Life Member contribution to \$200, with half earmarked for LM reserves, effective July 1, 1980.

Rich Zwirko moved that election ballots and membership renewals be mailed separately from the Newsletter. The vote was 6 in favor with Perry opposed.

To aid in external relations, the Board decided to establish the new position of Chairman of the Board. This officer would preside at the AMSAT Board Meetings, act as representative of the Board in external relations, and assume other duties as requested by the Board. This was approved and nominations were taken. John Browning was nominated and elected unanimously.

2) Election and appointment of executive officers

With the exception of Secretary and Vice President, Special Programs, all current officers were reelected. Martha Saragovitz was nominated and elected as Corporate Secretary, and a new position, Secretary to the Board was created and is to be filled by Joe Kasser. Martha was also appointed Assistant to the President, a new position. It was agreed that Martha would be given authority to sign checks along with the other executive officers for AMSAT's three checking accounts at State National Bank and Virginia National Bank.

3) Long range organizational structure planning

Rich Zwirko suggested that a public information office be established to produce publicity required by AMSAT and that AMSAT-UK handle this. The Board voted and all were in favor.

Vern Riportella agreed to submit his report on "Prospects for AMSAT Organizational Health in the 80's" by Thanksgiving, including a study on the desirability of establishing a separate AMSAT-USA organization. He also proposed the establishment of an Office of General Counsel. Tom Clark suggested Norm Chalfin be asked to serve as Counsel for Patent and Trademark Matters and Bill Brown be asked to serve as General Counsel. This motion was passed unanimously.

4) Interfaces between AMSAT, AMSAT affiliates, IARU, ARRL, ASSC and others

John Pronko from Project OSCAR reported that California Microwave volunteered to help Project OSCAR and/or AMSAT. He is also trying to nurture new membership. John Browning added that there are untapped resources in S. California for hardware.

5) Newsletter, Orbit Magazine, Orbit Calendar, Handbook, other publications

Bill Dunkerley presented the results of his feasibility study on the creation of Orbit Magazine. Tom Clark then proposed that the Board accept that the AMSAT Newsletter publication be succeeded by the publication "Orbit" Magazine, and that advertisements be accepted in the manner proposed by Bill Dunkerley in his report. This motion was carried with 5 in favor and Will Webster opposed. The Board, with the exception of Will, also decided that the AMSAT Newsletter will cease publication in Dec. 1979 and that the first publication in 1980 will be Orbit Magazine. The British will notify other English-speaking societies as to the decisions made on Orbit Magazine, with Pat Gowen acting as liaison between Member Societies and AMSAT. AMSAT-UK will also be responsible for distributing Phase III Countdown information provided by AMSAT.

A decision was made to cease publication of the Orbit Calendar since orbital data will now be included in Orbit Magazine.

MONDAY - Oct. 8th

1) Phase III Items

Will Webster presented a proposal to name Phase III-A, AMSAT-OSCAR (with the next available number in the OSCAR series) after launch. The vote was 6 in favor, with Perry opposed. It was also agreed that we would take steps to sensitize the members and users to the problem of protecting our "AMSAT" trademark against American Satellite Corp. and ask them to refer to Phase III-A as "AMSAT 9" after launch if they abbreviate the name, and that they should not drop the "AMSAT" and call it OSCAR 9.

Operations and policies were discussed by Rich Zwirko. The Board voted unanimously to accept the bandplan published in the June 1979 AMSAT Newsletter as a basis for Phase III operation. Tom Clark moved that a designated frequency for AMSAT network coordination and calling/answering activities be identified 29 kHz below the Engineering Beacon in the Phase III bandplan. The Board voted unanimous approval and accepted with thanks the reports of the Phase III Operations Committee authorizing them to continue their work.

Considered thanks was also given to the group currently developing Phase III ground station hardware and software: W1HDX, W3IWI, W6PAJ, WØLER, WØMD, WØPN, DL2EH, G3YJO, G3ZCZ, VE3SAT and ZL1AOX.

The interest in the continuation of ten-meter downlink OSCARS was discussed by Pat Gowen, and the Board agreed to try to take steps to encourage new projects in that area.

2) AMSAT Expansion Plans

The Board unanimously decided that a plan be prepared for presentation at the next Board meeting that discusses expansion of personnel and facilities necessary to support the AMSAT organization.

3) Thanks

Pat Gowen thanked the Board for making it possible for him to come to the USA for these meetings.

Rich Zwirko thanked the British AMSAT-UK contingent, with a special thanks to Martin, G3YJO for his excellent progress on the UOSAT project.

4) Setting of Next Meeting Date; Adjournment

The next meeting date will be in the Spring 1980, possibly around Easter, but exact date to be determined. The meeting was adjourned at 12:21 PM.

UTC DATE		AMSAT OSCAR-7				AMSAT OSCAR-8				
DAY	YYMMDD	ORBIT NO.	MODE	EQUATOR CROSSING HH:MM:SS	ORBIT DEC.	NO.	MODE	EQUATOR CROSSING HH:MM:SS	DEG.	
SAT	791201	= 79335	23068	A	00:47:37	UTC 78.8 °W	8863	J	01:27:00	UTC 69.7 °W
SUN	791202	= 79336	23081	B	01:41:53	92.4	8877	J	01:32:01	71.0
MON	791203	= 79337	23093	A	00:41:13	77.3	8891	A	01:37:02	72.3
TUE	791204	= 79338	23106	B	01:35:29	90.9	8905	A+J	01:42:03	73.5
WED	791205	= 79339	23118	A-X	00:34:49	75.7	8918	X	00:03:52	49.0
THU	791206	= 79340	23131	B	01:29:05	89.3	8932	A	00:08:53	50.3
FRI	791207	= 79341	23143	A	00:28:24	74.2	8946	A+J	00:13:53	51.5
SAT	791208	= 79342	23156	B	01:22:40	87.7	8960	J	00:18:54	52.8
SUN	791209	= 79343	23168	A	00:22:00	72.6	8974	J	00:23:55	54.1
MON	791210	= 79344	23181	B	01:16:16	86.2	8988	A	00:28:56	55.4
TUE	791211	= 79345	23193	A	00:15:35	71.0	9002	A+J	00:33:57	56.6
WED	791212	= 79346	23206	B-X	01:09:52	84.6	9016	X	00:38:58	57.9
THU	791213	= 79347	23218	A	00:09:11	69.5	9030	A	00:43:58	59.2
FRI	791214	= 79348	23231	B	01:03:27	83.1	9044	A+J	00:48:59	60.5
SAT	791215	= 79349	23243	A	00:02:47	67.9	9058	J	00:54:00	61.7
SUN	791216	= 79350	23256	B	00:05:03	81.5	9072	J	00:59:01	63.0
MON	791217	= 79351	23269	A	01:51:19	95.1	9086	A	01:04:01	64.3
TUE	791218	= 79352	23281	B	00:50:38	79.9	9100	A+J	01:09:02	65.6
WED	791219	= 79353	23294	A-X	01:44:55	93.5	9114	X	01:14:02	66.8
THU	791220	= 79354	23306	B	00:44:14	78.4	9128	A	01:19:03	68.1
FRI	791221	= 79355	23319	A	01:38:30	92.0	9142	A+J	01:24:03	69.4
SAT	791222	= 79356	23331	B	00:37:50	76.8	9156	J	01:29:04	70.6
SUN	791223	= 79357	23344	A	01:32:06	90.4	9170	J	01:34:04	71.9
MON	791224	= 79358	23356	B	00:31:25	75.3	9184	A	01:39:05	73.2
TUE	791225	= 79359	23369	A	01:25:41	88.8	9197	A+J	00:00:52	48.7
WED	791226	= 79360	23381	B-X	00:25:01	73.7	9211	X	00:05:53	49.9
THU	791227	= 79361	23394	A	01:19:17	87.3	9225	A	00:10:53	51.2
FRI	791228	= 79362	23406	B	00:18:36	72.1	9239	A+J	00:15:53	52.5
SAT	791229	= 79363	23419	A	01:12:53	85.7	9253	J	00:20:54	53.7
SUN	791230	= 79364	23431	B	00:12:12	70.6	9267	J	00:25:54	55.0
MON	791231	= 79365	23444	A	01:06:28	84.2	9281	A	00:30:54	56.3
TUE	800101	= 80001	23456	A	00:05:48	69.0	9295	A+J	00:35:54	57.6
WED	800102	= 80002	23469	B-X	01:00:04	82.6	9309	X	00:40:54	58.8
THU	800103	= 80003	23482	A	01:54:20	96.2	9323	A	00:45:55	60.1
FRI	800104	= 80004	23494	B	00:53:39	81.0	9337	A+J	00:50:55	61.4
SAT	800105	= 80005	23507	A	01:47:55	94.6	9351	J	00:55:55	62.6
SUN	800106	= 80006	23519	B	00:47:15	79.5	9365	J	01:00:55	63.9
MON	800107	= 80007	23532	A	01:41:31	93.1	9379	A	01:05:55	65.2
TUE	800108	= 80008	23544	B	00:40:50	77.9	9393	A+J	01:10:55	66.4
WED	800109	= 80009	23557	A-X	01:35:06	91.5	9407	X	01:15:55	67.7
THU	800110	= 80010	23569	B	00:34:26	76.4	9421	A	01:20:55	69.0
FRI	800111	= 80011	23582	A	01:28:42	89.9	9435	A+J	01:25:54	70.3
SAT	800112	= 80012	23594	B	00:28:01	74.8	9449	J	01:30:54	71.5
SUN	800113	= 80013	23607	A	01:22:17	88.4	9463	J	01:35:54	72.8
MON	800114	= 80014	23619	B	00:21:37	73.2	9477	A	01:40:54	74.1
TUE	800115	= 80015	23632	A	01:15:53	86.8	9490	A+J	00:02:41	49.5
WED	800116	= 80016	23644	B-X	00:15:12	71.7	9504	X	00:07:41	50.8
THU	800117	= 80017	23657	A	01:09:29	85.3	9518	A	00:12:40	52.1
FRI	800118	= 80018	23669	B	00:08:48	70.1	9532	A+J	00:17:40	53.3
SAT	800119	= 80019	23682	A	01:03:04	83.7	9546	J	00:22:40	54.6
SUN	800120	= 80020	23694	B	00:02:23	68.6	9560	J	00:27:39	55.9
MON	800121	= 80021	23707	A	00:56:40	82.1	9574	A	00:32:39	57.1
TUE	800122	= 80022	23720	B	01:50:56	95.7	9588	A+J	00:37:38	58.4
WED	800123	= 80023	23732	A-X	00:50:15	80.6	9602	X	00:42:38	59.7
THU	800124	= 80024	23745	B	01:44:31	94.2	9616	A	00:47:37	61.0
FRI	800125	= 80025	23757	A	00:43:51	79.0	9630	A+J	00:52:37	62.2
SAT	800126	= 80026	23770	B	01:38:07	92.6	9644	J	00:57:36	63.5
SUN	800127	= 80027	23782	A	00:37:26	77.5	9658	J	01:02:36	64.8
MON	800128	= 80028	23795	B	01:31:42	91.0	9672	A	01:07:35	66.0
TUE	800129	= 80029	23807	A	00:31:01	75.9	9686	A+J	01:12:34	67.3
WED	800130	= 80030	23820	B-X	01:25:18	89.5	9700	X	01:17:34	68.6
THU	800131	= 80031	23832	A	00:24:37	74.3	9714	A	01:22:33	69.8
FRI	800201	= 80032	23845	B	01:18:53	87.9	9728	A+J	01:27:32	71.1
SAT	800202	= 80033	23857	A	00:18:12	72.6	9742	J	01:32:31	72.4
SUN	800203	= 80034	23870	B	01:12:28	86.4	9756	J	01:37:31	73.6
MON	800204	= 80035	23882	A	00:11:48	71.2	9770	A	01:42:30	74.9
TUE	800205	= 80036	23895	B	01:06:04	84.8	9783	A+J	00:04:16	50.4
WED	800206	= 80037	23907	A-X	00:05:23	69.7	9797	X	00:09:15	51.6
THU	800207	= 80038	23920	B	00:59:39	83.2	9811	A	00:14:14	52.9
FRI	800208	= 80039	23933	A	01:53:55	96.8	9825	A+J	00:19:13	54.2

AMSSAT-OSCAR-7							AMSSAT-OSCAR-8						
UTC DATE		ORBIT	EQUATOR CROSSING		ORBIT	EQUATOR CROSSING							
DAY	YYMMDD	NO.	NCDE	HH:MM:SS	DEG.	NO.	MODE	HH:MM:SS	DEG.				
SAT	800209	= 80040	23945	B	00:53:15 UTC	81.7 °W	9839	J	00:24:12 UTC	55.4 °W			
SUN	800210	= 80041	23958	A	01:47:31	95.3	9853	J	00:29:11	56.7			
MON	800211	= 80042	23970	B	00:46:50	80.1	9867	A	00:34:10	58.0			
TUE	800212	= 80043	23983	A	01:41:06	93.7	9881	A+J	00:39:09	59.2			
WED	800213	= 80044	23995	B-X	00:40:26	78.6	9895	X	00:44:08	60.5			
THU	800214	= 80045	24008	A	01:34:42	92.1	9909	A	00:49:07	61.8			
FRI	800215	= 80046	24020	B	00:34:01	77.0	9923	A+J	00:54:06	63.0			
SAT	800216	= 80047	24033	A	01:28:17	90.6	9937	J	00:59:04	64.3			
SUN	800217	= 80048	24045	B	00:27:37	75.4	9951	J	01:04:03	65.6			
MON	800218	= 80049	24058	A	01:21:53	89.0	9965	A	01:09:02	66.8			
TUE	800219	= 80050	24070	B	00:21:12	73.9	9979	A+J	01:14:01	68.1			
WED	800220	= 80051	24083	A-X	01:15:28	87.5	9993	X	01:18:59	69.4			
THU	800221	= 80052	24095	B	00:14:47	72.3	10007	A	01:23:58	70.6			
FRI	800222	= 80053	24108	A	01:09:03	85.9	10021	A+J	01:28:56	71.9			
SAT	800223	= 80054	24120	B	00:08:23	70.8	10035	J	01:33:55	73.2			
SUN	800224	= 80055	24133	A	01:02:39	84.3	10049	J	01:38:54	74.4			
MON	800225	= 80056	24145	B	00:01:58	69.2	10062	A	00:00:39	49.9			
TUE	800226	= 80057	24158	A	00:56:14	82.8	10076	A+J	00:05:38	51.1			
WED	800227	= 80058	24171	B-X	01:50:30	96.4	10090	X	00:10:36	52.4			
THU	800228	= 80059	24183	A	00:45:49	81.2	10104	A	00:15:35	53.7			
FRI	800229	= 80060	24196	B	01:44:05	94.8	10118	A+J	00:20:33	54.9			
SAT	800301	= 80061	24208	A	00:43:25	79.7	10132	J	00:25:31	56.2			
SUN	800302	= 80062	24221	B	01:37:41	93.3	10146	J	00:30:30	57.5			
MON	800303	= 80063	24233	A	00:37:00	78.1	10160	A	00:35:28	58.7			
TUE	800304	= 80064	24246	B	01:31:16	91.7	10174	A+J	00:40:26	60.0			
WED	800305	= 80065	24258	A-X	00:30:36	76.5	10188	X	00:45:25	61.3			
THU	800306	= 80066	24271	B	01:24:52	90.1	10202	A	00:50:23	62.5			
FRI	800307	= 80067	24283	A	00:24:11	75.0	10216	A+J	00:55:21	63.8			
SAT	800308	= 80068	24296	B	01:19:27	88.6	10230	J	01:00:19	65.0			
SUN	800309	= 80069	24308	A	00:17:46	73.4	10244	J	01:05:17	66.3			
MON	800310	= 80070	24321	B	01:12:02	87.0	10258	A	01:10:15	67.6			
TUE	800311	= 80071	24333	A	00:11:22	71.9	10272	A+J	01:15:13	68.8			
WED	800312	= 80072	24346	B-X	01:05:38	85.5	10286	X	01:20:11	70.1			
THU	800313	= 80073	24358	A	00:04:57	70.3	10300	A	01:25:10	71.4			
FFI	800314	= 80074	24371	B	00:59:13	83.9	10314	A+J	01:30:07	72.6			
SAT	800315	= 80075	24384	A	01:53:29	97.5	10328	J	01:35:05	73.9			
SUN	800316	= 80076	24396	B	00:52:48	82.3	10342	J	01:40:03	75.2			
MON	800317	= 80077	24409	A	01:47:04	95.9	10355	A	00:01:48	50.6			
TUE	800316	= 80078	24421	B	00:46:24	80.8	10369	A+J	00:06:46	51.9			
WED	800319	= 80079	24434	A-X	01:40:40	94.4	10383	X	00:11:44	53.1			
THU	800320	= 80080	24446	B	00:35:59	79.2	10397	A	00:16:42	54.4			
FRI	800321	= 80081	24459	A	01:34:15	92.8	10411	A+J	00:21:40	55.7			
SAT	800322	= 80082	24471	B	00:33:34	77.7	10425	J	00:26:37	56.9			
SUN	800323	= 80083	24484	A	01:27:50	91.2	10439	J	00:31:35	58.2			
MON	800324	= 80084	24496	B	00:27:10	76.1	10453	A	00:36:33	59.4			
TUE	800325	= 80085	24509	A	01:21:25	89.7	10467	A+J	00:41:30	60.7			
WED	800326	= 80086	24521	B-X	00:20:45	74.5	10481	X	00:46:28	62.0			
THU	800327	= 80087	24534	A	01:15:01	88.1	10495	A	00:51:26	63.2			
FFI	800328	= 80088	24546	B	00:14:20	73.0	10509	A+J	00:56:23	64.5			
SAT	800329	= 80089	24559	A	01:08:36	86.6	10523	J	01:01:21	65.8			
SUN	800330	= 80090	24571	B	00:07:55	71.4	10537	J	01:06:18	67.0			
MON	800331	= 80091	24584	A	01:02:11	85.0	10551	A	01:11:16	68.3			
TUE	800401	= 80092	24596	B	00:01:31	69.9							
WED	800402	= 80093	24609	A-X	00:55:47	83.4							
THU	800403	= 80094	24622	B	01:50:03	97.0							
FRI	800404	= 80095	24634	A	00:49:22	81.9							
SAT	800405	= 80096	24647	B	01:43:38	95.5							
SUN	800406	= 80097	24659	A	00:42:57	80.3							
MON	800407	= 80098	24672	B	01:37:13	93.9							
TUE	800408	= 80099	24684	A	00:36:32	78.8							
WED	800409	= 80100	24697	B-X	01:30:48	92.3							

Data from T. Clark, W3INI

Litter and Comment



Dear Joe,

After having helped two new "space cadets" into the world of satellite communication, I often wonder how in the world anyone ever learns what is needed to "fly with the bird" in such a short period of time. At their first attempt at operating the OSCAR satellites the teacher often hears comments from the pupils like, "This OSCAR bit is a whole new world for me", "It took four of us to even find ourselves on ten meters here", "It's just too complicated for me." A challenge yes, impossible, no but without the help of an experienced OSCAR operator this dilemma and confusion of first time operators could get the best of them. We are fortunate to have several good "how to" type publications from the ARRL and other sources and they provide the basic information needed for a "space cadet" to try his hand on OSCAR, but what is really needed is basic one to one communication between a potential satellite user and an established satellite user. I would encourage all experienced OSCAR operators to make yourself known by presenting talks on OSCAR at your local club or repeater organization and offering your help to those who seek it (and to those who are too proud to ask).

It is a good and heart warming feeling to hear your new "space cadet" earn his wings with his first OSCAR contact and become, hopefully a "Captain Video" for someone else.



Bill Clepper, W3HV
LM-1030

Dear Joe:

That there is a "Change in Life Style," is quite true, even in our government and daily life. Been trying, since the Newsletter arrived, to evaluate the question and find a plausible answer. The truth is there doesn't seem to be one at present which does not curtail or reverse the wonderful work you and those at AMSAT have done. So far it appears the amateurs are not ready to support the necessary paid staff for AMSAT. Volunteers are becoming harder to find and today's life style makes it impossible for many of

us to take on the jobs with any assurance of ability to meet necessary deadlines much less keep one's commitment.

Definite changes in the Newsletter are in order, but what? One thing I hope the Newsletter keeps its present identity and stays under the control of AMSAT.

To cover all phases of space work is very much in order. This, of course, would demand a larger publication and bring up the question from many about the name identified as satellite where it was EME, etc. A new or combined publication sectionalized could do the job and maintain identity, but would group feeling accept that? Certainly it should be a drawing card to advertisement by virtue of covering a much broader field.

Speaking of a "democratic organization", the lack of interest in the Board of Directors election, now open to all, demonstrates the social failure of exercising that right which we asked for. I'm not satisfied with AMSAT policies, especially the dictates accepted from ARRL, who got OSCAR 8 and now apparently is trying to cram a poor job down our throats. It's more than a pity the presentation of names for the Board of Directors that none submitted any information as to "why" they should be elected or their overall thoughts on AMSAT policies (hear, hear, Editor). The election is therefore little more than that of a gambling wheel being spun. I know nothing against any name submitted, but know less about the individual ability or actual interest. You know quite well, however, there are some users of OSCAR whom few of us would like to see on our Board.

Hope this sheds some light on how some of us feel and DO keep up your appreciated and good work.

73,

Lowell, W5UCY
LM-33



AUSTRALIA \$1

Dear Joe,

I just received the AMSAT Newsletter for September today. Cliche though it is, that front cover is worth a thousand words. Very nice. Also, I like the touch of the stamps with the letters.

I write now primarily to convey my views concerning the future form of the Newsletter.

It would be a mistake, I think, to have one Newsletter for all AMSAT members worldwide. That is, to try to have one periodical serve all members worldwide. Especially if articles in languages other than English are published.

For example, when the article entitled, "Range Measurements with OSCAR Satellites," was published in French in the Sept. 1978 Newsletter, I did not take the time and make the effort to plow through the thing, even though I would have read it all the way through had it been in English. I studied French for several years and at one time was fairly fluent in it. But that was ten years ago. One's brain becomes rusty without use. I felt I did not have the time to struggle through it. I think there are relatively few U.S. amateurs fluent enough in foreign languages to warrant the publication of articles in the Newsletter in languages other than English. Even those of us who have had experience with a language may not still be fluent, and too busy with projects to brush up. It would be better for one person to translate it for the benefit of the rest of us.

For Europeans who have had the benefit of geographical proximity to languages other than their own tongue, a multi-lingual publication would make more sense. Separate publications would allow a bit more flexibility in responding to particular needs or interests of a particular geographical area.

I think the idea to publish advertisements relevant to AMSAT interests would be good.

Regarding frequency of publication, it has been my observation that the lower the frequency of a publication the higher is the general quality of its contents. If a need is felt for more frequent publication of the Newsletter, I would prefer a gradual increase in frequency; maybe first to five times a year, or six, and keeping that frequency for a while to see how satisfactory or not it is. A jump to monthly publication would be a mistake.

Please stay away from color, an unneeded frill!! I think, in general that the AMSAT Newsletter has been good. It is meant, in my view, to convey information about all phases of AMSAT

activity and I do not see it failing in important respects.

With regards,
Seren Bach, AA4B



Dear Editor:

With reference to your Editorial in the June '79 issue, I propose that you do not carry articles not directly related to satellite communications.

If possible, I would welcome issues more often than at present, in order to be able to provide more updated information.

In general, I find you are doing an excellent job and the Newsletter is an adequate means of communicating with AMSAT members at large.

(I do appreciate direct mailing as I have requested your Circul. Dept. separately).



YV 73,
Pedro Seidemann, YV5BPG

Dear Joe,

Congratulations, OSCAR 7B, is in plenty of health; I was out of line in my amateur's satellite hearing because my antennas were full of water!!, but, last 10 Sept. 1979, I prepared my modified Yaesu Transceiver FT-2FB with my own built VFO and LSB demodulator, with a 5/8 wavelength antenna for 2 m. At 0122 UTC I heard the excellent signal from Costa-Rica put out by TI2JC.

Next, I'll be in OSCAR 7B activity, with a modified Henry Amplifier in the 70 cm band 432.15 MHz USB translator and in OSCAR 8J with a 435.1 MHz receiver.

When AMSAT Phase III will go to space, I'll be ready with my built 435.1 translator, 10 watts pep and 20 dBi helical 70 cm antenna, 15 dBd crossed yagi for 2 m, azimuth - elevation rotors, and my super-sensitive 2 m receiver.

Calixto Herrera A., HK6CYH

Dear Joe,

Here is a neat little "helper" I developed to help track the "bird". I find it difficult to make QSO's and track OSCAR while constantly looking at my OSCARLOCATOR. What I did was work up a simple chart to note all information on a pass in a simple, yet readable fashion. Enclosed is a

(A)	(B)	(D)		(F)				
Equator crossing info. (from QST, etc.)		First beam heading to use at AOS		Major azimuth points OSCAR will pass thru on pass, e.g., 30, 60, 90, 120, 150 degrees				
Degrees	A	D	F	F	F	F	F	F
Time	B	E	H	H	H	H	H	H
	C	-	G	G	G	G	G	G
(C)	Time from equator crossing to AOS (from OSCARLOCATOR)		(E) Time for AOS (Add B and C)	e.g. 4+5	+7	+8	+9	+11
				(G)				

(H)
Add minutes from "G" to "E" to show when to make antenna azimuth changes "H"

ALSO → Another space on each column could be included to note antenna elevation at the major degree points. When Phase III goes up, this same system could be used, but double length because of longer time.



(Continued from Page 11)

sample sheet, with an explanation attached. A "pass" can be put together using an OSCARLOCATOR in about a minute, showing just about anything you need to know along with the times needed to follow the bird. I find it easy to figure the passes for the evening in about three minutes and have the information ready so at the last minute I'm not needing to be an octopus trying to get everything done.

Neil Hill, K7NH



Dear Joe,

Regarding the proposals to change the Newsletter, here are my thoughts.

I like the present size of the journal as it's easy to stuff in a pocket or briefcase. (I have found a lot of the expanded radio amateur magazines, QST, HR etc., have not increased their article content, just the size of type with much extra wasted margin.

Like the idea of expanded coverage, keep to space related-radio EME, other satellites, radio astronomy, etc. Suggest that total of all non-OSCAR articles match total of OSCAR articles. Good idea to go 64 pages but probably not more often than six times a year until you are sure of steady supply of manuscripts.

Accept advertising, but limit it to VHF-UHF type equipment. We need more articles on homebrew preamps, transverters, etc.

73,
Carl H. Menne, WB9KYE

P.S. Joe, maybe you could make a list of stations needing assistance available to persons willing to donate books, parts or excess equipment.

Dear Joe:

I read your editorial in the June issue of "Newsletter" and I would like to make some comments.

First, a multilingual publication is fine, but separate publications in, say French, German and Spanish and English would be better, of course, but too expensive.

The name "Newsletter" would be a suitable name because it is a newsletter between the AMSAT Board of Directors, the working staff, and the members/readers.

A larger format publication (8x11") would have more space for articles, but who is going to write them? It seems that there are not too many volunteers for the current journal (or are there?). I don't like the idea of advertising, but if the Newsletter is to be rearranged (I mean other format and soon), then advertising is a must.

I think that publishing it 6 times a year is a good idea to start with, and I am also for covering other related aspects of the satellite field as well.

Birger Lindholm, LM-728
Finland

Dear Joe:

I would like to propose that other AMSAT'ers who are capable of HF RTTY communications begin a net on 20 and/or 80 meters. JALANG proposed a CW net, and I should like to try a RTTY net at the following:

Saturdays at 1200 UTC on 14,100 kHz LSB
Sundays at 0300 UTC on 14,100 kHz LSB

Also, I'd like to start a net type operation on Tuesday nights (N. America) on 80 meters on 3620 kHz (LSB) at one-half hour after the AMSAT SSB nets begin. That would be:

Wednesdays at 0230 UTC for mid-states

Until I can get a formal net started, I will call "CQ AMSAT" on the above mentioned frequencies during the week between orbits. I hope to "print" some of you soon.

73,
Charles E. Martin, AB4Y
Box 3370
Bowling Green, KY 42101

Dear Joe,

Please permit me the use of your column to say a big thank you to all of those in AMSAT who made the visit of Norma and myself such a wonderful and enjoyable experience.

It was truly wonderful to have the personal warm presence of so many good friends that we had known for so long by letter, tape, QSO and telephone, and to see for the first time the real person behind the contacts.

We were very impressed with the kindness and overwhelming hospitality accorded us by everyone that we met, and everywhere that we went, and just want to say how much the generosity and thoughtfulness of you all was appreciated.

Our only regret was that our meetings with many of you were so very short, and the few days that we had available and the few minutes that appeared between meetings were much too little.

we hope to make up for this in times to come...this was our very first to the USA...we do not think it will be our last!

To everyone who dined us, wined us, took us out and about, who provided transport, visits, our home from home, who came especially to see us, and to make our stay so happy and memorable, a heartfelt thank you for a wonderful week.



73 and 88's
Pat and Norma Gowen,
G3IOR and XYL

Dear Joe:

Referring to the editorial on page 3 in the AMSAT Newsletter June 1979, I agree with the proposed changes in the AMSAT Newsletter especially increased frequency of publication and its expansion of contents.

I do not agree with the proposed change in the name of the AMSAT Newsletter. It is now well known worldwide, and AMSAT Newsletter looks and sounds a lot better than just another electronics magazine such as Popular Electronics, Mechanics Illustrated, etc.

I am gearing up for the Phase III program and hope the WARC doesn't change all the frequencies.

Sincerely,



Reynolds O. Dorris
WB4DQL



(Continued from Page 5)

Norm, K2KLV gave a most interesting "Mode J Mobile Demonstration" at the AMSAT meeting.

Attempts are being made to load Codestore on A-0-7, also to get the old bird on Mode A on even calendar days of the year and Mode B on odd days.

Efforts to increase AMSAT membership are underway. It is suggested when you make a contact on either of the satellites, exchange your AMSAT membership number (similar to Mode "J" No., 10-10 SWOT). If the station you contact is not a member of AMSAT then send him/her a membership application. Applications are available from your Area Coordinator, AMSAT HQ or ARRL.

THE AMSAT-80 COMPUTER PROJECT UPDATE

By Joe Kasser, G3ZCZ

Good News and Bad News

The bad news- the AR-1 card is again delayed. The layout person moved to California taking along the artwork and prototypes.

The good news - A description of the project was published in the September issue of BYTE magazine. Arrangements have been made for the distribution of hardware and software. As far as software is concerned, we have the AMS-80 monitor-debug package, and programs in Basic for satellite tracking. As far as hardware is concerned, we have two S-100 boards in a ready-to-go state. We have a Station Controller Card as developed and previously described by W1HDX, and a TRUMP board. The TRUMP board is designed for Phase III tracking and provides a serial digital interface to the S-100 computer. It also contains interrupt generator circuitry, a tone monitor and a number of parallel I/O lines. External demodulator boards will also be required to copy and display the Phase III spacecraft PSK-beacon telemetry. The Station Controller Card contains a time of day clock in hardware, relays and multichannel analog-to-digital converter for transceiver and antenna control. You may request further details about those cards and other amateur radio related software from Joe Kasser, Box 1704, Silver Spring, MD 20902.



"What do you mean?... my uplink is stronger than your downlink!..."

MEMBERSHIP RENEWAL NOTICE

Important - All AMSAT membership information is being entered into our new AMS-80 computer system at AMSAT Headquarters, to facilitate handling of renewals, address changes and information retrieval. Please help us by indicating areas in which you may be willing and able to assist. Complete all information and mail the form below back to AMSAT as quickly as possible.

Attention Life Members: Please fill in the information below to update our records and indicate areas in which you might be able to help.

Name _____	Call _____	License _____	ARRL Member? _____
Street _____	City _____	State _____ (Country) _____	Zip or Postal Code _____

Is this a change of address? _____ Membership Number _____

Check here if you are applying for new membership _____

Would you be willing to accept an AMSAT assignment if requested? Yes No

Please circle areas of possible contribution below

<u>Technical</u>			<u>Administrative</u>		
G Prelim. Design	O Circuit Design	X Publicity	4 Clerical/Secr.		
H Antennas	P Computers	Y Library/Historian	5 Printing/Repro.		
I Tracking	Q Stabilization	Z Fund Raising	6 Photography		
J Power Systems	R Testing	Ø Data Processing	7 Accounting/Auditing		
K Telemetry	S Packaging	1 Legal	8 Publications		
L Structural Design	T Data Acquisition	2 Editorial	9 Tech. Translation		
M Fabrication	U Data Dissemination	3 Tech. Writing	Language _____		
N Drafting	V Machining		* Education _____		
	W Thermal Design/ Analysis		J Satellite Bltn. Xmsns.		

If you own a personal computer, what kind is it? _____

Are you equipped for OSCAR operation? Yes No

Circle modes you have made contacts on: A B J CW SSB

Individual membership dues for January-December 1980.....\$10.00

(Approx. half the dues are for subscription to Orbit Magazine)

**Include \$3.00 here for airmail delivery of Orbit Magazine (in North America, include \$1.50 for First Class mail.).....\$_____

Affiliated Member Society dues for January-December 1980 (\$20)....\$_____

Life Membership (donation of \$100 or more).....\$_____
An AMSAT-OSCAR satellite pin is provided to new Life Members

"Satellite Communications" (ARRL publication) including "Getting to Know OSCAR" and OSCARLOCATORS @ \$4.75

Life Member Society (Donation of \$200 or more).....\$_____

Contribution toward AMSAT Phase IIII Satellite (Solar cells may be sponsored at \$10.00 per cell, battery cells at \$200).....\$_____

Other\$_____

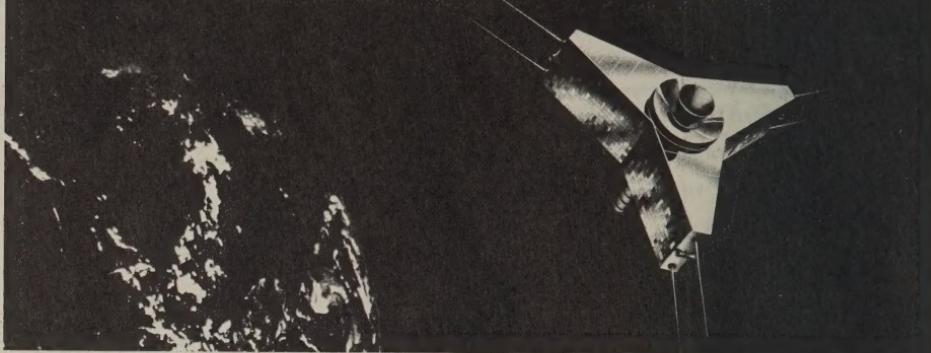
TOTAL AMOUNT ENCLOSED\$_____

(Please make your check or money order payable to "AMSAT" in U.S. funds. We also welcome payment by VISA or MasterCharge. Please give your account number and expiration date here: Credit Card No. _____ Exp. Date _____

*NOTE: Members outside the U.S. may send their AMSAT dues to their national organization: AMSAT-DL, AMSAT-France, AMSAT-Italiana, JAMSAT, AMSAT-Mexico, AMSAT-Nederland, AMSAT-UK, or NZART. Swiss dues can be sent to HB9OP. Members in countries with currency restrictions may send IRC's (@ 3 IRC's per \$1.00)

** Orbit Magazine will be sent via Second Class and Surface Mail unless additional postage is included. Life Members receive Orbit Magazine by First Class or Air Mail.

YOU... AND AMSAT PHASE III



An exciting new era in amateur radio is about to begin...the era of AMSAT PHASE III OSCAR satellites.

The AMSAT PHASE III satellite program promises a continuing demonstration that amateur radio is at the forefront of modern technology. PHASE III satellites will routinely provide reliable communications over paths of up to 11,000 miles (17,600 km) for 17 hours each day. You can think of them as a resource equivalent to a new band.

The cost of these PHASE III satellites is a projected \$250,000. Commercial satellites of similar performance would cost nearly \$10,000,000.

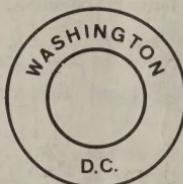
Your help is needed to put these PHASE III OSCAR satellites in orbit.

Your valued, tax-deductible contribution can be as small as one of the 5000+ solar cells needed. A handsome certificate will acknowledge the numbered cells you sponsor for \$10 each. Larger components of the satellites may also be sponsored with contribution acknowledgements ranging to a plaque carrying your name aboard the satellites. Call or write us for the opportunities available.

Your membership in AMSAT is important to the satellite program, and will give AMSAT a stronger voice in regulatory matters concerned with satellites. At \$10 per year or \$100 for life, you will be making a most significant contribution to the satellite program and the future of amateur radio. You will also receive the quarterly AMSAT newsletter.

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